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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,016	10/21/2003	Justin R. Morris	12821.34USC2	5006

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EXAMINER

GELLNER, JEFFREY L

ART UNIT

PAPER NUMBER

3643

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/691,016

Applicant(s)

MORRIS ET AL.

Examiner

Jeffrey L. Gellner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-48, 51-75 and 78-82 is/are pending in the application.
- 4a) Of the above claim(s) 67-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-48, 51-66 and 78-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC §103*

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 38 and 40-42 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034).

As to Claims 38 and 40-42, Brumat discloses an apparatus for mechanized vineyard cultivation comprising a first tool mechanical pruner, a cutting tool ("operating arms for topping that are substitutable and interchangeable" of col. 2 lines 18-26; 20 of Fig. 1); a mechanical second tool shoot thinner, a striking tool ("operating arms intended for bud/sucker removal" of col. 2 lines 7-8 in that the suckers are removed; 20 of Fig. 5). Not disclosed is a fruit thinning after shoot thinning using a mechanical fruit thinner. Green, however, discloses a fruit thinner (col. 6 lines 72-75) used after shoot thinning (from "effective for thinning fruit at any stage" of col. 6 lines 72-75). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Brumat by using the fruit thinner of Green so as to use more effective tools for each operation. The apparatus of Brumat as modified by Green inherently discloses the method steps recited in claim 38.

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Claims 39, 43, and 44-46 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) in further view of Hiyama et al. (US 4,255,922).

As to claims 39, 43, and 44, the limitations of Claim 38 are disclosed as described above. Not disclosed is the apparatus further comprising a mechanical harvester that is a shaker tool. Hiyama et al., however, further discloses a harvester that is a shaker (col. 18 lines 26-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green by adding a mechanical harvester as disclosed by Hiyama et al. so as reduce costs of harvest. The apparatus of Brumat as modified by Green and Hiyama et al. inherently perform the method steps recited in claim 39.

As to claim 45, Brumat as modified by Green and Hiyama et al. further disclose a cutting bar (Fig. 2 of Brumat).

As to claim 46, Brumat as modified by Green and Hiyama et al. further disclose a plurality of strikers (27 of Brumat).

Claims 47, 51, 52, 55-58, and 60-62 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view Green (US 3,232,034) in further view of Mead et al. (US 4,383,400).

As to claim 47, the limitations of Claim 38 are disclosed as described above. Not disclosed is the method(apparatus) step comprising leaf removal. Mead et al., however, discloses an apparatus for leaf removal ("foliage trimming" of col. 2 lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the

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apparatus of Brumat as modified by Green by adding a means for leaf removal as disclosed by Mead et al. so as to promote higher yield (col. 1 lines 15-18).

As to claim 51, the limitations of Claim 39 are disclosed as described above. Not disclosed is the method(apparatus) step comprising a canopy adjustment by removing a portion of the canopy on a single curtain trellis. Mead et al., however, discloses an apparatus for removing a portion of the canopy ("foliage trimming" of col. 2 lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green by adding a means for canopy adjustment (removal) as disclosed by Mead et al. so as to promote higher yield (col. 1 lines 15-18) and to use on a single curtain trellis depending upon the available type of trellis.

As to Claims 52, 57, and 58, Brumat discloses an apparatus for mechanized grape cultivation comprising a mechanical pruner ("operating arms for topping that are substitutable and interchangeable" of col. 2 lines 18-26; 20 of Fig. 1); a mechanical shoot thinner ("operating arms intended for bud/sucker removal" of col. 2 lines 7-8 in that the suckers are removed; 20 of Fig. 5). Not disclosed is a fruit thinning after shoot thinning using a mechanical fruit thinner before fruit is ready for harvest and opening centers of a top portion and keeping the centers clean with a mechanical unit; the grapes trained on GDC or divided canopy trellis systems. Green, however, discloses a fruit thinner (col. 6 lines 72-75) used after shoot thinning (from "effective for thinning fruit at any stage" of col. 6 lines 72-75) with a mechanical thinner before harvest; Mead et al. discloses opening centers of a top portion of the vine (Fig. 6, col. 3 lines 26-32 in that when used with GDC or divided canopy trellises); and, it obvious to use a GDC trellis system as a common system. It would have been obvious to one of ordinary skill in the art at the

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time of the invention to modify the apparatus of Brumat by using the fruit thinner of Green so as to use more effective tools for each operation; to open centers and maintain them open as disclosed by Mead et al. so as to remove unneeded foliage; and, to use the GDC system as a common system. The apparatus of Brumat as modified by Green and Mead et al. inherently discloses the method steps recited in claim 52.

As to claims 55 and 56, the limitations of Claim 52 are disclosed as described above. Not disclosed is the center unit a slapper or breaker unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by using a slapper or breaker unit so as to achieve a particular goal with the specific species of grape.

As to claim 60, the limitations of Claim 58 are disclosed as described above. Not disclosed is removing excessive leaves in the fruiting zone. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by removing leaves in the fruiting zone so as to increase the speed and efficiency of harvesting.

As to claims 61, the limitations of Claim 58 are disclosed as described above. Not disclosed is the center unit a slapper or breaker unit. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by using a slapper or breaker unit so as to achieve a particular goal with the specific species of grape.

As to claims 62, the limitations of Claim 58 are disclosed as described above. Not disclosed is the pruning being summer pruning using a pruning machine to cut sides and tops. It

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would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by pruning being summer pruning using a pruning machine to cut sides and tops so as to achieve a particular goal with the specific species of grape.

Claim 48 is rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Hiyama et al. (US 4,255,922).

As to claim 48, Brumat discloses a apparatus for vineyard mechanization comprising a dedicated mechanical pruner (one of the “pair of arms for topping” of col. 2 line 18); a dedicated mechanical shoot thinner (other of the “operating arms intended for bud/sucker removal” of col. 2 lines 7-8 in that the suckers are removed). Not disclosed is a dedicated mechanical harvesting tool and pruning during a dormant period, shoot thinning during a growing period, the two coordinated to arrive at a predetermined yield. Hiyama et al., however, further discloses a dedicated harvester (col. 18 lines 26-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Brumat by adding a dedicated mechanical harvester as disclosed by Hiyama et al. so as reduce costs of harvest; and, to prune during a dormant period, to thin shoots during a growing period, and to coordinate the two activities to arrive at a predetermined yield as obvious known viticultural, horticultural practice. The apparatus of Brumat as modified by Hiyama et al. inherently perform the method steps recited in claim 48.

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Claims 53, 59, and 63-66 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) and Mead et al. (US 4,383,400) in further view of Hiyama et al. (US 4,255,922).

As to claim 53, the limitations of Claim 52 are disclosed as described above. Not disclosed is the method further comprising a mechanical harvester. Hiyama et al., however, further discloses a mechanical harvester (col. 18 lines 26-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by adding a mechanical harvester as disclosed by Hiyama et al. so as reduce costs of harvest. The apparatus of Brumat as modified by Mead et al. and Hiyama et al. inherently perform the method steps recited in claim 53.

As to claim 59, the limitations of Claim 58 are disclosed as described above. Not disclosed is the method further comprising a mechanical harvester. Hiyama et al., however, further discloses a mechanical harvester (col. 18 lines 26-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by adding a mechanical harvester as disclosed by Hiyama et al. so as reduce costs of harvest. The apparatus of Brumat as modified by Mead et al. and Hiyama et al. inherently perform the method steps recited in claim 53.

Claim 54 is rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) and Mead et al. (US 4,383,400) in further view of Oldridge (US 5,101,618; 24<sup>th</sup> document on page 2 of Applicant's 1449).



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As to claim 54, the limitations of Claim 52 are disclosed as described above. Not disclosed is a shoot positioner. Oldridge, however, discloses a shoot positioner (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the apparatus of Brumat as modified by Green and Mead et al. by adding a shoot positioner as disclosed by Oldridge so as to increase light penetration into the fruit zone (see Oldridge at col. 1 lines 9-12).

Claims 63-66 and 78-82 are rejected under 35 U.S.C. §103(a) as being unpatentable over Brumat (US 4,257,213) in view of Green (US 3,232,034) and Mead et al. (US 4,383,400) in further view of Hiyama et al. (US 4,255,922).

As to claims 63-66, Brumat as modified by Green, Mead et al. and Hiyama et al. disclose these method steps as shown above. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the individual steps as to there time of implementation depending upon growing practices that are well known in the viticultural art and to use the different trellis systems depending upon availability and ease of use.

As to claims 78-82, these are obvious variation of the above.

### ***Response to Arguments***

Applicant's arguments filed 17 November 2005 have been fully considered but they are not persuasive. Applicants' arguments are: (1) Brumat neither discloses a mechanical pruner, nor teaches or suggests the method steps in the present claims, nor teaches a striking tool (Remarks page 13, 1<sup>st</sup> complete para.; page 14 1<sup>st</sup> complete para.); (2) Hiyama et al. is not used

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in vineyards but in harvesting raisins (Remarks page 14, 3<sup>rd</sup> complete para.); (3) no reference teaches a dormant or growing period nor arriving at a predetermined yield (Remarks page 15, top of page); and, (4) Mead et al. does not disclose brushes configured for opening centers of a top portion (Remarks page 16, 1<sup>st</sup> complete para.).

As to argument (1), Examiner considers Brumat to disclose both a first and second tool for pruning and shoot thinning because topping is a form of pruning and bud/sucker removal is shoot thinning (a sucker equivalent to a shoot). The method steps are obvious to one of ordinary skill in the art of viticulture/horticulture when using mechanized pruners and thinners.

As to argument (2) Hiyama et al. discloses that their apparatus has “particular utility in the harvesting of grapes in both vine dried and undried form” (at col. 1 lines 19-23). Grapes in the “undried form” would be equivalent to a vineyard.

As to argument (3), the timing of use during the crop cycle of mechanized pruning, thinning, harvesting is considered well known to growers of grapes. Grape growers, or farmers, routinely time there farming practices to correlate with the crop’s lifecycle.

As to argument (4), Mead et al. state that their “[b]rushes are easily adjusted for use on all trellis styles, even umbrella vines” at col. 3 lines 25-29. These statement makes it obvious to use the apparatus of Mead et al. with Applicants’ method steps.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey L. Gellner  
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Art Unit 3643